May 19, 2011

To whom it may concern,

We are pleased to finally see guidelines being established for land-based wind energy developments, and have a few comments about the current draft.

Regarding putting references online at a Service Wind Energy website, this would allow the service to easily update information with the most current state-of-the-science, which we support. However, we understand the concerns that it may also remove some of the credibility of the references because they may not be viewed as officially part of the guidelines, may be ephemeral in nature, or lacking a review process. Therefore, if a website containing information to support the guidelines is implemented, it needs to be designed so that changes and updates can be easily found (e.g. a link with the list of changes along with the date of, reason for, and clear implications of the change). There also needs to be a notification system that will notify persons (who sign up to be notified) when changes or updates occur.

We also support the proposed lengthening of pre- and post-construction monitoring time periods when potential risk and other factors justify the time period. As biologists, we have long understood how natural variation and small "snapshots" of monitoring can dangerously misrepresent the risk at a proposed site. We often recommend radar studies of at least a year in order to capture all the natural variation in activity throughout each season, and further recommend multi-year studies as many conditions (such as inclement weather conditions that are important risk factors for migrating birds) are episodic and have great year-to-year variation. If only "snapshots" of activity are collected at a potential wind energy site (e.g. two weeks during a migration season, 10 random nights during several migration seasons, or even just a single migration season) then observations of high risk activity will be difficult to place into context. For example, if monitoring caught the one time a high risk activity occurred in five years, the frequency of high risk activity may be greatly overestimated and a low risk site may be unreasonably eliminated. In contrast, if monitoring missed moderately frequent high risk activity during a migration season, or if monitoring only covered migration and high risk activity is abundant during summer or winter, then a high risk site will not be adequately identified and future impacts and / or mitigation costs may be unacceptably high. European wind energy developers have already been implementing multi-year studies. We also support the use of a standard process for determining study length as in table 1, which allows the length of pre- and/or post-construction monitoring to vary dependent on certain factors.

Although we recognize the benefits of keeping these guidelines voluntary, we feel that only mandatory guidelines will level the playing field and make all wind energy developments consider environmental impacts equally. Wind energy development is growing too fast in this county to ignore the potential impacts of even a small percent of the developers who would choose to ignore voluntary guidelines. We feel these guidelines provide a valuable process for wind developers to follow when considering potential impacts to wildlife, but they are only useful if followed. Voluntary guidelines make it too easy for some developers to conveniently

ignore the early work up front that would prevent poorly-sited projects from developing in the first place, and also prevent costly changes and mitigation measure.

We applaud the service in recognizing recent operational tools such as radar-based systems that tie together the SCADA system with blade idling during high-risk conditions (page 59, 2nd bullet). We also appreciate the list of deterrent devices listed on page 60, but request that the service add Long Range Acoustic Devices (LRAD) as a possible deterrent device at wind energy sites, particularly at sites with high risk for raptor or vulture collisions. Sonic deterrents such as LRAD have shown some success in deterring birds, with distress and alarm calls being more aversive and resistant to habituation and louder sounds also being more aversive (Bomford and O'Brien 1990). The use of very loud sounds that deter birds because of pain may ultimately require weighing the animal welfare against the protection gained with deterrence away from wind turbines. Also, more testing is needed to confirm effectiveness of sonic deterrents at wind turbines as well as species-specific effectiveness, but sonic deterrents show promise, particularly when used as part of radar-activated on-demand systems.

Ronconi et al. 2004 summarizes several studies that demonstrated the effectiveness of radar-activated on-demand systems at toxic water features, some using sonic among other types of deterrents. The authors also evaluated the potential of using radar-activated on-demand systems at wind farms, a scenario similar to the mitigation opportunity listed on page 59 (2nd bullet). Therefore, we request that the 2nd bullet be expanded to include additional scenarios. For example, similar to the given example of feathering blades via SCADA when a certain target passage rate is detected by radar, a sonic deterrent could be triggered when large, soaring birds such as raptors or vultures are detected by radar within the risk zone of wind turbines, also using the SCADA interface.

Lastly, we noticed that at least five of the references cited were not in Appendix C: Literature cited. These include Langston and Pullnan 2003, Christensen et al. 2004, Kahlert et al. 2005, Petterson et al. 2005, and Hagstrum, 2000.

Thank you for your time and effort in creating these guidelines, and for the opportunity to comment on them.

Sincerely,

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References Cited:

Bomford, Mary and Peter H. O'Brien. 1990. Sonic deterrents in animal damage control: a review of device tests and effectiveness. Wildlife Society Bulletin 18: 411-422.

Ronconi, Robert A., Colleen Cassady St. Clair, Patrick D. O'Hara, and Alan E. Burger. 2004. Waterbird deterrence at oil spills and other hazardous sites: potential applications of a radar-activated on-demand deterrence system. Marine Ornithology 32: 25-33.